







ANGE-CLÉMENT AKAZAN

PhD Student ~ AI Researcher

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-  AngeClementAkazan
-  Kigali, Rwanda
-  Ange-Clément Akazan

INTEREST

Generative modeling, robustness in machine learning and deep learning, constrained optimization for AI models, AI-driven video anomaly detection, and deep learning techniques for sequence data prediction.

TOOLS

Programming: Python, R and SQL.
Software: Microsoft Word, Excel/VBA, PowerPoint, Access, Libre Office, LaTeX & Tableau.
Version Control | OS: Git | Windows and Linux

Expertise: Proficient in writing clean, efficient, and well-documented Python and R codes. Experienced in implementing machine and deep learning algorithms, leveraging mathematical and statistical skills to optimize model performance and deliver data-driven insights through critical problem-solving.

Abbreviations: African Institute for Mathematical Sciences: **AIMS**, University Felix Houphouët Boigny: **UFHB**, Montreal Institute of Learning Algorithm: **MILA** and Quantum Leap Africa: **QLA**, Institute for Data Valorization: **IVADO**, University of Kwazulu Natal: **UKZN**.

EDUCATION

Mar2024–Now	PhD in mathematics	UKZN & AIMS (Pietermaritzburg, South Africa) & (Kigali, Rwanda)
Aug2021–Jun2022	Master in mathematical sciences, major: climate science	AIMS Kigali, Rwanda
Oct2019–Feb2021	Master in applied mathematics, major: statistics	UFHB Abidjan, Côte d'Ivoire
Aug2015–Sep2019	Bachelor in applied mathematics	UFHB Abidjan, Côte d'Ivoire

EXPERIENCE

Sep2023–Now	Research Intern in Generative AI for tabular data	MILA-Quebec
Collaborating with Prof. Ioannis Mitliagkas and Dr. Alexia Jolicoeur-Martineau, I develop a novel flow matching-based autoregressive tabular data generation method. This framework improves tabular data generation, especially in the case of mixed data types, while delivering competitive generation speed. Throughout this project, I gained proficiency in generative modeling and Python programming and honed creativity, critical thinking, and collaboration skills.		
Feb2023–Apr2023	Technical Support Specialist for the Evidence-Based Climate Reporting Initiative (ECRI)	REMA-AIMS
As a Technical Support Specialist, my responsibilities included leading the implementation of innovative data management techniques for the ECRI Program. I led data validation and analysis using Excel, ensuring data accuracy. I utilized advanced Excel tools for the extraction of insights and applied statistical techniques to communicate data effectively. Furthermore, I collaborated with multidisciplinary teams, fostering harmonious workflows and addressing technical challenges to optimize processes.		
Jul2023–Dec2023	Research Assistant in data science	QLA Kigali, Rwanda
At Quantum Leap Africa, I specialized in image processing and advanced concepts of Generative Adversarial Networks (GANs) and adversarial knowledge distillation using Python. I led the development of a novel loss function for compressing GANs models, efficiently distilling generative knowledge from a one-million-parameter GANs generator network to a neural network with only six thousand parameters while preserving image quality.		
Aug2022–Oct2022	Teaching Assistant in Algorithmic & Python Programming	AIMS Rwanda
As a Teaching Assistant, I helped M.Sc. students to get familiar with Algorithmic and Python. My role involved instilling a sense of algorithmic thinking, helping them approach and solve problems with structured clarity. After establishing this foundation, we facilitated their mastery of Python, covering fundamental topics from mathematical operations and basic containers to an introduction to machine learning.		

PROJECTS

Apr2024–Now	Title: Designing Robust and Reliable Supervised Machine Learning Models Using Probabilistic-Constrained Optimization (PhD Project) Institution: AIMS RIC & UKZN Supervisors: Dr. D.Sc. Abebe Geletu, Dr. Jean Medard Ngnotchouye and Dr. Issa Karambal
Sep2023–Now	Title: Generating Tabular Data Using Heterogeneous Sequential Feature Forest Flow Matching Institution: MILA Supervisors: Prof. Ioannis Mitliagkas and Dr. Alexia Jolicoeur-Martineau Preprint Link
Apr2022–Jun2022	Title: Deep Learning Methods for Weather Predictions (AIMS Master Project) Institution: AIMS Rwanda Supervisors: Dr. D.Sc. Abebe Geletu and Dr. Kameni Nteutse Peguy Project link
Jul2020–Dec2020	Title: Random Forests and Applications (UFHB Master Project written in French) Institution:UFHB Supervisor: Pr. Monsan Vincent Project link

SCHOLARSHIPS

March 2024	Ph.D. Scholarship Recipient of a fully funded scholarship of \$46,000 (forty-six thousand United States dollars) for a 3-years Ph.D. program in data science at AIMS Research and Innovation and Center.	AIMS
Sep2023-Dec2023	AIMS-IVADO Research Internship Scholarship Recipient of a fully funded scholarship of \$10,000 (ten thousand United States dollars) for a 4-month research internship in AI at MILA-Quebec.	AIMS-IVADO
Jun2022–Aug2022	Research Internship Scholarship Recipient of a scholarship of £200.00 (two hundred pounds sterling) for an 8-week online research program in Generative AI for fraud Detection.	Mfano-Africa-Oxford
Aug2021–June2022	Structured Master's Programme Scholarship Recipient of a fully funded scholarship of \$25,000 (twenty five thousand United States dollars) for a 1-year Master in mathematical sciences.	AIMS

CERTIFICATES

Apr 2023	Certificate of participation in Doctoral Training School This training equipped me with foundational skills in data science, spanning from data analysis in Python and R to predictive statistics, machine learning, and generative models.	QLA
Jan 2023	Certificate of completion for Microsoft Excel training: "MS-from Beginner to Advanced Level" I achieved proficiency in proficiency in basic and advanced functions, adept at automating tasks with Macros and VBA, managing large datasets, and creating dynamic reports and dashboards.	Udemy
Jun2022–Aug2022	Certificate of participation in a mini-project I successfully participated in an 8-week research project focused on Generative AI for fraud detection.	Oxford University

LANGUAGES

English - B2+, French - native

REFERENCES

Prof. Ioannis Mitliagkas

Dr. D.Sc. Abebe Geletu

Dr. Zoe Wyatt

Prof. Blaise Tchapnda